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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,650	07/30/2003	Tsutomu Kadotani	Q76784	6845
23373	7590	12/01/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			WANG, GEORGE Y	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/629,650

**Applicant(s)**

KADOTANI, TSUTOMU

**Examiner**

George Y. Wang

**Art Unit**

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because it is too long. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

2. Claims 2 and 3 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Even though the product-by-process limitation "fabricated by a...method" is recognized as limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). See also MPEP 2113. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kijima et al. (U.S. Patent No. 6,259,500, hereinafter "Kijima").

5. Regarding claims 1-3, Kijima discloses an LCD device (fig. 8a, 8b, ref. 200) comprising a first substrate (fig. 8b, ref. 11 of 80), a second substrate (fig. 8b, ref. 11 of 60), a sealing member (fig. 8b, ref. 36) to form a gap between the first and second substrates, a liquid crystal layer (col. 13, lines 33-36) formed in the gap and confined by the sealing member (fig. 8b, ref. 36), and spacers (fig. 8b, ref. 34) arranged in the liquid crystal layer within a display region (fig. 8b, ref. 38) and not in the non-display region (fig. 8b, ref. 37).

6. As to claim 4, Kijima discloses the LCD device as recited above further comprising a depression (fig. 8b, ref. 85) formed on the inner surface of the first substrate where the depression is located in the second part of the liquid crystal layer

forming step between the display region and non-display region and where the depression constitutes a buffer space for extra liquid crystal.

7. As per claim 5, Kijima discloses the LCD device as recited above further comprising TFTs (fig. 8a, ref. 21) arranged on the first substrate in such a way as to be electrically connected to the respective pixels and a dielectric layer (fig. 8b, ref. 85) formed on the first substrate to cover the TFTs and the pixels, such that the dielectric layer is where the depression is formed.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kijima in view of Miyazaki et al. (U.S. Patent No. 5,978,061, hereinafter "Miyazaki").

10. As to claim 6, Kijima discloses the LCD device as recited above, however, the reference fails to specifically disclose a dielectric layer having a depression formed on the second substrate.

Miyazaki discloses an LCD device having a dielectric layer (fig. 1, ref. 35) having a depression formed on the second substrate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a dielectric layer having a depression formed on the second substrate since one would be motivated to improve alignment and orientation, and ultimately to reduce display defect attributed to deterioration in cell gap (col. 3, lines 15-19).

11. As per claim 7, Kijima discloses the LCD device as recited above, however, the reference fails to specifically disclose one of the first or second substrates having a transparent plate having a depressed part on its inner surface.

Miyazaki discloses an LCD device where the second substrate has a transparent plate (fig. 1, ref. 34) having a depressed part on its inner surface.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have one of the first or second substrates having a transparent plate having a depressed part on its inner surface since one would be motivated to provide electrode function as well as to reduce display defect attributed to deterioration in cell gap, increase yield, and provide optimum display performance (col. 3, lines 15-19).

12. Regarding claim 8, Kijima discloses the LCD device as recited, however, the reference fails to specifically disclose the satisfaction of the expression,  $H \geq (1/2) \times (1000 + L) \times [0.02d + [L \times (0.02d/1000)]/L]$  ( $\mu\text{m}$ ).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have satisfied the relationship,  $H \geq (1/2) \times (1000 + L) \times [0.02d + [L \times (0.02d/1000)]/L]$  ( $\mu\text{m}$ ) is satisfied (col. 16, lines 17-46), since one would be motivated to suppress the level of non-uniformity due to variations in cell thickness to an acceptable level so that a convex/concave profile can be provided (col. 16, lines 17-47). Ultimately, this serves to help realize a uniform cell thickness across the entire panel and improve display quality (col. 5, lines 7-29).

13. As to claim 9, Kijima discloses the LCD device as recited above, however, the reference fails to specifically disclose spacers that are pole-shaped formed on one of the first and second substrates.

Miyazaki discloses an LCD device having spacers that are pole-shaped (fig. 1, ref. 33) formed on one of the first and second substrates.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have spacers that are pole-shaped formed on one of the first and second substrates since one would be motivated to minimize rubbing cloth during the rubbing process so that an orientation defective area does not extend into the pixel area (abstract). Ultimately, this serves to reduce display defect attributed to deterioration in cell gap, increase yield, and provide optimum display performance (col. 3, lines 15-19).

**Conclusion**

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gw  
November 26, 2004

A handwritten signature in black ink, appearing to be 'GW', is located in the lower right quadrant of the page. To the right of the signature, there is a faint, partially legible stamp that includes the word 'EXAMINER'.